

Case Report



Atypical Renal and Gluteal Hydatid Cysts: Report of Two Cases

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ABSTRACT

Hydatid cyst is a parasitic disease caused by the tapeworm *Echinococcus granulosus*. Hydatid cyst disease mostly involves the liver and the lung, while renal involvement is rare, comprising only 2% of all cases. An interesting case of a giant renal hydatid cyst is presented in our first case. The big cystic mass detected at ultrasonography (US) and computerized tomography (CT) in a 44-year-old female looked like a simple cyst. No germinative membrane or any other radiological sign of a hydatid cyst was present. An another interesting case of a giant renal hydatid cyst is presented in our second case. A 27-year-old female admitted to the hospital with the complaint of right flank pain for three years and for a pain in right gluteal region for a year. Abdominal computed tomography revealed two cysts in right kidney 12x12 cm and 5x5 cm in size. Also a cyst between internal and external oblique muscles 5x5 cm in size, and a cyst in the right gluteal region 12x12 cm in size. Despite modern imaging methods, isolated renal hydatid disease might still cause diagnostic dilemma and hydatid cysts can be found in unusual localization.

Key words: Echinococcus, hydatid, kidney.

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ÖZET

Atipik Böbrek ve Gluteal Hidatik Kistleri: İki Olgu Sunumu

Kist hidatik hastalığı parazitik bir hastalık olup *Echinococcus granulosus*'un larva formu tarafından oluşturulmaktadır. Kist hidatik hastalığı sıklıkla karaciğer ve akciğerleri etkilemektedir. Böbrek tutulumu nadir olarak görülmekte olup tüm vakaların 2% kadarını oluşturmaktadır. Birinci olgumuz 44 yaşındaki kadın hastada saptanan ve basit böbrek kisti ile uyumlu radyolojik bulgulara sahip bir kist hidatik olgusudur. İkinci olgumuz 27 yaşında 3 yıldır sağ yan ağrısı ve son bir yıldır gluteal bölgede ağrısı olan kadın hasta olup, bilgisayarlı tomografi ile yapılan inceleme sonucu sağ böbrekte 12x12 cm and 5x5 cm boyutlarında iki adet kist saptanmıştır. Aynı zamanda, internal ve eksternal oblik kaslar arasında 5x5 cm boyutlarında ve sağ gluteal bölgede 12x12 cm boyutlarında kist saptanmıştır. Görüntüleme yöntemlerindeki gelişmelere rağmen bazen basit böbrek kisti görünümünde böbrek kist hidatiği olabilir ve aynı zamanda sık görülen bölgeler dışında da kist hidatik saptanabilir.

Anahtar kelimeler: Böbrek, echinococcus, hidatik

Hydatid cyst is a parasitic disease caused by the tapeworm *Echinococcus granulosus*. The tapeworm stage is harbored in the intestine of a carnivore, called the "definitive host". The tapeworm eggs are passed in the feces of an infected carnivore and are ingested by a herbivore (e.g., sheep), called the "intermediate host". The eggs hatch in the intestine of the herbivore, penetrate the intestinal wall, and reach the liver using the portal vein, where they develop into a hydatid cyst. Sometimes they passed through the liver barrier and reach the lungs and all other viscera (1).

Hydatid disease is prevalent worldwide especially in countries with a warm climate (India, African countries, Turkey, South American countries and Middle Eastern countries). This parasitic illness is diagnosed commonly in the east and south-east regions of Turkey (2). Renal hydatidosis is an uncommon presentation echinococcal disease and occurs in only about %2 of all cases (3).

CASE REPORT

Case 1- A 44-year-old female admitted to the hospital with the complaint of right flank pain. Physical examination

revealed a smooth, nontender, mobile mass in the patient's right upper abdomen. Laboratory tests revealed an erythrocyte sedimentation rate of 31 mm/hr, normal blood cell count and normal serum creatinine levels, and no abnormalities on urinalysis. A chest x-ray film was unremarkable. Ultrasonography (US) was performed and the big cystic mass 15x15 cm in size was detected. The internal structure of the mass was purely anechoic, and the cystic wall was thin and regular. No alteration in the wall's structure, which could resemble a germinative membrane, was apparent. A computerized tomography (CT) examination verified the US findings; and well delineated the association between the mass and the right kidney (Figure 1). After all these radiological findings, the mass was diagnosed as a giant simple renal cyst. The operation was planned for a simple cyst; but was altered, after an intraoperative diagnostic needle sampling brought out the characteristic fluid of hydatid cyst. It was like clear water (rock water), which was the key point for us to define the mass as a hydatid cyst. Hypertonic sodium chloride (3% NaCl) solution was injected into the cyst cavity for sterilization. The cyst wall was opened and the germinative membrane was extracted. The internal surface of the cyst wall was washed

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with pavidone iodine, and cystectomy was performed. Pathological examination confirmed the hydatid cyst. Immediate postoperative echinococcal antibody titration was negative. The postoperative period was uneventful, and the patient was prescribed albendazole 400 mg twice daily for 4 weeks to prevent metastatic cyst formation.

Case 2- A 27-year-old female admitted to the hospital with the complaint of right flank pain for three years and for a pain in right gluteal region for a year. Physical examination revealed a smooth, nontender, mobile mass in the patient's right gluteal region. Laboratory tests revealed an erythrocyte sedimentation rate of 25 mm/hr, normal blood cell count and normal serum creatinine levels, and no abnormalities on urinalysis. A chest x-ray film was unremarkable. Ultrasonography was performed and multipl renal cysts were detected. Abdominal computed tomography revealed two cysts in right kidney 12x12 cm and 5x5 cm in size (Figure 2). Also a cyst between internal and external oblique muscles 5x5 cm in size, and a cyst in the right gluteal region 12x12 cm in size were determined (Figure 3). Pretreatment with albendazole 400 mg twice daily for 4 weeks performed before operation. One month after albendazole treatment, renal and gluteal hydatid cysts were surgically removed.

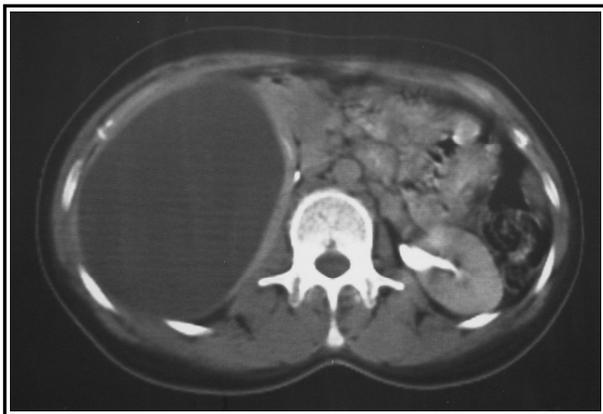


Figure 1. Computed tomography scan showing renal hydatid cyst presenting as a peripelvic cystic lesion without calcification, debris, or a solid component (Patient 1).

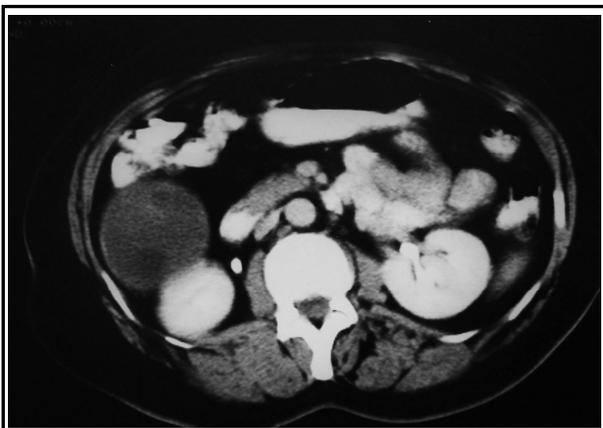


Figure 2. Computed tomography appearance of the renal hydatid cyst (Patient 2).



Figure 3. Computed tomography appearance of the gluteal hydatid cyst (Patient 2).

DISCUSSION

The clinical presentation of renal hydatid disease is usually non-specific and related to the mass effect of the enlarging cyst. Abdominal and lumbal pain is the most frequent presenting symptom (4). The only pathognomonic sign of renal hydatid disease is hydatiduria, which occurs when the cyst communicates with the collecting system; this has been reported in 5% to 28% of patients (5, 6) Preoperative definitive diagnosis for renal hydatid disease is difficult even when all investigations were performed. The diagnosis is usually made with imaging and serologic studies.

There is no specific laboratory finding of renal hydatid disease. Moderate eosinophilia is non-specific, although present in 20-50% of cases. Indirect hemagglutination test and enzyme-linked immunosorbent assay are the most sensitive tests, although they commonly provide both false-positive and negative results (3). Recently counter immunoelectrophoresis against arch-5 gained wide acceptance (7).

However, despite modern imaging methods, isolated renal hydatid disease might still cause diagnostic dilemma like mentioned as in our first case. Among imaging studies, CT is the most valuable diagnostic examination (8). CT findings include a thick, calcified cyst wall, a unilocular cyst with detached membrane, multiloculated cystic formation with mixed density, and daughter cysts with lower density than the mother cyst (9).

Medical management of renal hydatidosis is far from being a realistic alternative to surgery and should be considered as adjuvant therapy. Pretreatment with albendazole is very important as the cyst material becomes nonantigenic, decreasing the chance of anaphylaxis. Pretreatment also decreases tension in the cyst wall; thus, reducing the risk of spillage. The recommended dose of albendazole is 400 mg twice daily for 4 weeks (2). However, we administered albendazole after surgery in our first case.

Surgical options include simple cystectomy, pericystectomy, partial or total nephrectomy. Cyst removal without contaminating the patient is the goal of therapy because rupture of a cyst also causes allergic manifestations that vary from pruritus and urticaria to anaphylactic shock even death (10) Before the main surgical procedure three different scolocidal agents can be injected into the cysts; 3% hypertonic saline solution, 10% povidon iodine solution, and 95% ethanol. A

safely cleavage plane have been obtained between cyst and normal renal tissue. Renal sparing surgery is possible in a significant proportion of cases - as in our cases. Total nephrectomy is inevitable in case of significantly destroyed renal parenchyma by pressure from cyst (2).

Gupta et al. (11) described a rare case of isolated renal hydatid cyst presenting as perinephric and iliopsoas abscess and discussed the dilemma in diagnosis. An another interesting case of a giant renal hydatid cyst is presented in our second case. Patient presented with the complaint of right flank pain for three years and for a pain in right gluteal region for a year. The big cystic mass detected at kidney and gluteal region.

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